



Faculty of Science

NAMOB, Master Programme in Molecular Biology, 120 credits

Masterprogram i molekylärbiologi, 120 högskolepoäng

Second cycle degree programme requiring previous university study / *Program med akademiska förkunskapskrav och med slutlig examen på avancerad nivå*

Decision

The syllabus was approved by Study programmes board, Faculty of Science on 24-01-2008 (N 2008-383) and was last revised on 17-12-2025 by The Board of Faculty of Science (STYR 2025/936). The revised syllabus comes into effect 19-01-2026 and is valid from the spring semester 2026.

Specialisations

Code	Swedish name	English name	Credits
ALLM	Allmän inriktning	General	120 credits
IMIN	Immunologi och infektionsbiologi	Immunology and Infection Biology	120 credits
MIBT	Mikrobiologi och bioteknik	Microbiology and Biotechnology	120 credits
MGBI	Molekylär genetik och bioteknik	Molecular Genetics and Biotechnology	120 credits

Programme description

The programme for a degree of Master of Science specialising in Molecular Biology comprises 120 credits and leads to a degree of Master of Science (120 credits) with a major in Molecular Biology.

The programme is based on scholarship and is closely linked to research conducted at the Lund University Faculty of Science. The operations at the faculty uphold academic credibility and good research practice and are arranged to ensure that high standards

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are attained in courses and study programmes. Furthermore, the operations promote sustainable development, equality between women and men and understanding of other countries and international circumstances. These aspects are integrated in the degree outcomes of the programme.

Second-cycle courses and study programmes in the main field of Molecular Biology are fundamentally based on the knowledge acquired by students during first-cycle courses and study programmes.

Second-cycle courses and study programmes in the main field of Molecular Biology involve the acquisition of specialist knowledge, competence and skills in relation to first-cycle courses and study programmes, and in addition to the requirements for first-cycle courses and study programmes shall:

- further develop the ability of students to integrate and make autonomous use of their knowledge,
- develop the students' ability to deal with complex phenomena, issues and situations, and
- develop the students' potential for professional activities that demand considerable autonomy, or for research and development work.

The programme applies a learning perspective, in which students take an active role in the learning process, and consciously and continuously reflect on their learning and development towards the degree outcomes.

Goals

Knowledge and understanding

For a Degree of Master (120 credits) the student shall:

- demonstrate knowledge and understanding in the main field of study, including both broad knowledge of the field and a considerable degree of specialised knowledge in certain areas of the field as well as insight into current research and development work, and
- demonstrate specialised methodological knowledge in the main field of study.

Competence and skills

For a Degree of Master (120 credits) the student shall:

- demonstrate the ability to critically and systematically integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information
- demonstrate the ability to identify and formulate issues critically, autonomously and creatively as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames and so contribute to the formation of knowledge as well as the ability to evaluate this work
- demonstrate the ability in speech and writing both nationally and internationally to clearly report and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences, and
- demonstrate the skills required for participation in research and development

work or autonomous employment in some other qualified capacity.

Judgement and approach

For a Degree of Master (120 credits) the student shall:

- demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work
- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

Independent project (degree project)

A requirement for the award of a degree of Master (120 credits) is completion by the student of an independent project (degree project) for at least 30 credits in the main field of study. The degree project may comprise less than 30 credits, however no less than 15 credits, if the student has already completed an independent project in the second cycle for at least 15 credits in the main field of study or the equivalent from a programme of study outside Sweden.

Course information

The programme comprises 2 years for a degree of Master (120 credits). The appendix *Programme structure and course requirements for Master Programme in Molecular Biology* at the Faculty of Science describes the courses included.

A Degree of Master (120 credits) is awarded after the student has completed the courses required. In addition, the prior award of a Degree of Bachelor of at least 180 credits or a corresponding qualification from abroad is required. To acquire the fundamentally based advanced knowledge and understanding, competence and skills as well as judgement and approach required to meet the learning outcomes for a degree of Master of Science (120 credits) with a major in Molecular Biology, new knowledge building upon the underlying Bachelor's degree is necessary.

Additional information in appendix 1 Programme Structure and course requirements for Master Programme in Molecular Biology, 120 credits.

Degree

Degree titles

Degree of Master of Science (120 credits)

Major: Molecular Biology

Major: Molecular Biology with specialization in Immunology and Infection Biology

Major: Molecular Biology with specialization in Medical Biology

Major: Molecular Biology with specialization in Microbiology

Major: Molecular Biology with specialization in Microbiology and Biotechnology

Major: Molecular Biology with specialization in Molecular Genetics and Biotechnology

Naturvetenskaplig masterexamen

Huvudområde: Molekylärbiologi

Huvudområde: Molekylärbiologi med fördjupning i immunologi och infektionsbiologi

Huvudområde: Molekylärbiologi med fördjupning i medicinsk biologi

Huvudområde: Molekylärbiologi med fördjupning i mikrobiologi

Huvudområde: Molekylärbiologi med fördjupning i mikrobiologi och bioteknik

Huvudområde: Molekylärbiologi med fördjupning i molekylär genetik och bioteknik

Requirements and Selection method

Requirements

Specialisation: Molecular Genetics and Biotechnology

Specialisation: Microbiology and Biotechnology

Bachelor's degree of at least 180 credits or the equivalent, of which 120 credits must be in science/biomedicine/engineering, including:

45 credits in molecular biology comprising genetics, cell biology and microbiology

30 credits in chemistry comprising biochemistry

Proficiency in English equivalent to English 6/B from Swedish upper-secondary school.

Specialisation: Immunology and Infection Biology

Bachelor's degree of at least 180 credits or the equivalent, of which 120 credits must be in science/biomedicine/engineering, including:

45 credits in molecular biology comprising genetics, cell biology and microbiology

15 credits in human/animal physiology

30 credits in chemistry comprising biochemistry

Proficiency in English equivalent to English 6/B from Swedish upper-secondary school.

Specialisation: General Molecular Biology

Bachelor's degree of at least 180 credits or the equivalent, of which 120 credits must be in science/biomedicine/engineering, including:

45 credits in molecular biology comprising genetics, cell biology and microbiology

7.5 credits in human/animal physiology

30 credits in chemistry comprising biochemistry

Proficiency in English equivalent to English 6/B from Swedish upper-secondary school.

Selection method

Based on grades awarded for previous academic courses and a statement of purpose for the application to the study programme (from the applicant's "Summary sheet").

Transition rules

The Faculty Board may decide on the discontinuation of a programme or main field

and may also decide, in association with this, on transitional provisions for students who have started these programmes.

Other information

Rules pertaining to grades and examination are stated in the course syllabi approved by the Faculty Board.



FACULTY OF SCIENCE

Appendix 1 for programme syllabus,
NAMOB Master Programme in
Molecular Biology, 120 credits

Reg. No.
U 2024/322

Date 2024-05-23

Department of Biology

Programme Structure and course requirements for Master Programme in Molecular Biology, 120 credits

The programme comprises two years of full-time studies (120 credits) and leads to a Degree of Master of Science with major in Molecular Biology, and can be pursued through several specialisations, each with its associated study path.

Specialisations

- General
- Immunology and Infection Biology
- Microbiology and Biotechnology
- Molecular Genetics and Biotechnology

General

Compulsory Courses

Compulsory courses of 15 credits.

BIOR85, Biology: Immunology, 15 credits

Or

BIOR18, Biology: Microbiology, 15 credits

Or

BIOR95, Biology: Molecular Genetics of Eukaryotes, 15 credits

Elective courses

Elective courses of at least 45 credits.

BIOR56, Biology: Antibiotics - Biology and Chemistry, 7.5 credits
 KEMM23, Chemistry: Advanced Biochemistry, 15 credits
 BIOR84, Biology: Cellular and Molecular Neurobiology, 15 credits
 BIOR98, Biology: Pharmacology, 15 credits
 BIOR92, Biology: Genetic Analysis, 7.5 credits
 BIOR85, Biology: Immunology, 15 credits
 BIOR88, Biology: Immunology and Infection Biology, 15 credits
 BIMM27, Biomedicine: Metabolic diseases, 7.5 credits
 BIOR18, Biology: Microbiology, 15 credits
 BIOS08, Biology: Microscopy - Bio-Imaging, 7.5 credits
 BIOR79, Biology: Methods in Molecular Biology, 15 credits
 BIOR94, Molecular Biotechnology and Methods, 15 credits
 BIOR95, Biology: Molecular Genetics of Eukaryotes, 15 credits
 BIOR63, Biology: Molecular Microbiology, 15 credits
 BIMM26, Biomedicine: Molecular and Experimental Neurobiology, 7.5 credits
 BIOR58, Biology: Neurobiology, 15 credits
 BIOR20, Biology: Sensory Biology, 15 credits
 BIMM25, Stem Cell Biology and Regenerative Medicine, 7.5 credits
 BIMM28, Biomedicine: Tumour Biology, 7.5 credits
 BIOR76, Biology: Plant Function, 15 credits

In the degree, a maximum of 15 credits of the following courses may be included:

BIOS15, Biology: Processing and Analysis of Biological Data, 7.5 credits
 BINP17, Bioinformatics: Bioinformatics and Sequence Analysis, 7.5 credits
 BIOR92, Biology: Genetic Analysis, 7.5 credits
 BIOS13, Biology: Modelling Biological Systems, 7.5 credits
 KEMM35, Chemistry: Structural Biochemistry, 15 credits
 BIOR93, Biology: Applied Bioinformatics, 7.5 credits
 BINP16, Bioinformatics: Programming in Python, 7.5 credits

Optional courses

Optional courses between 0 to 30 credits.

Degree Project

Degree project between 30 to 60 credits.

MOBM02, Molecular Biology: Master's Degree Project, 30 credits
 MOBN02, Molecular Biology: Master's Degree Project, 45 credits
 MOBN03, Molecular Biology: Master's Degree Project, 60 credits

Immunology and Infection Biology

Compulsory courses

Compulsory courses of 45 credits.

BIOR18, Biology: Microbiology, 15 credits
BIOR85, Biology: Immunology, 15 credits
BIOR88, Biology: Immunology and Infection Biology, 15 credits

Elective courses

Elective courses of at least 15 credits.

BIOR56, Biology: Antibiotics - Biology and Chemistry, 7.5 credits
KEMM23, Chemistry: Advanced Biochemistry, 15 credits
BIOS15, Biology: Processing and Analysis of Biological Data, 7.5 credits
BINP17, Bioinformatics: Bioinformatics and Sequence Analysis, 7.5 credits
BIOR84, Biology: Cellular and Molecular Neurobiology, 15 credits
BIOR98, Biology: Pharmacology, 15 credits
BIOR92, Biology: Genetic Analysis, 7.5 credits
BIMM27, Biomedicine: Metabolic diseases, 7.5 credits
BIOS08, Biology: Microscopy - Bio-Imaging, 7.5 credits
BIOS13, Biology: Modelling Biological Systems, 7.5 credits
BIOR94, Molecular Biotechnology and Methods, 15 credits
BIOR95, Biology: Molecular Genetics of Eukaryotes, 15 credits
BIOR63, Biology: Molecular Microbiology, 15 credits
BIMM26, Biomedicine: Molecular and Experimental Neurobiology, 7.5 credits
BIOR58, Biology: Neurobiology, 15 credits
BINP16, Bioinformatics: Programming in Python, 7.5 credits
BIOR20, Biology: Sensory Biology, 15 credits
BIMM25, Biomedicine: Stem Cell Biology and Regenerative Medicine, 7.5 credits
KEMM35, Chemistry: Structural Biochemistry, 15 credits
BIOR93, Biology: Applied Bioinformatics, 7.5 credits
BIMM28, Biomedicine: Tumour Biology, 7.5 credits
BIOR76, Biology: Plant Function, 15 credits

Optional courses

Optional courses between 0 to 30 credits.

Degree Project

Degree Project between 30 to 60 credits.

MOBM02, Molecular Biology: Master's Degree Project, 30 credits
 MOBN02, Molecular Biology: Master's Degree Project, 45 credits
 MOBN03, Molecular Biology: Master's Degree Project, 60 credits

Microbiology and Biotechnology

Compulsory Courses

Compulsory courses of 45 credits.

BIOR18, Biology: Microbiology, 15 credits
 BIOR63, Biology: Molecular Microbiology, 15 credits
 BIOR94, Molecular Biotechnology and Methods, 15 credits

Elective courses

Elective courses of 15 credits.

BIOR56, Biology: Antibiotics - Biology and Chemistry, 7.5 credits
 KEMM23, Chemistry: Advanced Biochemistry, 15 credits
 BIOS15, Biology: Processing and Analysis of Biological Data, 7.5 credits
 BINP17, Bioinformatics: Bioinformatics and Sequence Analysis, 7.5 credits
 BIOR84, Biology: Cellular and Molecular Neurobiology, 15 credits
 BIOR98, Biology: Pharmacology, 15 credits
 BIOR92, Biology: Genetic Analysis, 7.5 credits
 BIOR85, Biology: Immunology, 15 credits
 BIOR88, Biology: Immunology and Infection Biology, 15 credits
 BIMM27, Biomedicine: Metabolic diseases, 7.5 credits
 BIOS08, Biology: Microscopy - Bio-Imaging, 7.5 credits
 BIOS13, Biology: Modelling Biological Systems, 7.5 credits
 BIOR95, Biology: Molecular Genetics of Eukaryotes, 15 credits
 BIMM26, Biomedicine: Molecular and Experimental Neurobiology, 7.5 credits
 BIOR58, Biology: Neurobiology, 15 credits
 BINP16, Bioinformatics: Programming in Python, 7.5 credits
 BIOR20, Biology: Sensory Biology, 15 credits
 BIMM25, Biomedicine: Stem Cell Biology and Regenerative Medicine, 7.5 credits
 KEMM35, Chemistry: Structural Biochemistry, 15 credits
 BIOR93, Biology: Applied Bioinformatics, 7.5 credits
 BIMM28, Biomedicine: Tumour Biology, 7.5 credits
 BIOR76, Biology: Plant Function, 15 credits

Optional courses

Optional courses between 0 to 30 credits.

Degree Project

Degree Project between 30 to 60 credits.

MOBM02, Molecular Biology: Master's Degree Project, 30 credits

MOBN02, Molecular Biology: Master's Degree Project, 45 credits

MOBN03, Molecular Biology: Master's Degree Project, 60 credits

Molecular Genetics and Biotechnology

Compulsory Courses

Compulsory courses of 37.5 credits.

BIOR95, Biology: Molecular Genetics of Eukaryotes, 15 credits

BIOR92, Biology: Genetic Analysis, 7.5 credits

BIOR94, Molecular Biotechnology and Methods, 15 credits

Elective courses

Elective courses of 22.5 credits.

BIOR56, Biology: Antibiotics - Biology and Chemistry, 7.5 credits

KEMM23, Chemistry: Advanced Biochemistry, 15 credits

BIOS15, Biology: Processing and Analysis of Biological Data, 7.5 credits

BINP17, Bioinformatics: Bioinformatics and Sequence Analysis, 7.5 credits

BIOR84, Biology: Cellular and Molecular Neurobiology, 15 credits

BIOR98, Biology: Pharmacology, 15 credits

BIOR85, Biology: Immunology, 15 credits

BIOR88, Biology: Immunology and Infection Biology, 15 credits

BIMM27, Biomedicine: Metabolic diseases, 7.5 credits

BIOR18, Biology: Microbiology, 15 credits

BIOS08, Biology: Microscopy - Bio-Imaging, 7.5 credits

BIOS13, Biology: Modelling Biological Systems, 7.5 credits

BIOR63, Biology: Molecular Microbiology, 15 credits

BIMM26, Biomedicine: Molecular and Experimental Neurobiology, 7.5 credits

BIOR58, Biology: Neurobiology, 15 credits

BINP16, Bioinformatics: Programming in Python, 7.5 credits

BIOR20, Biology: Sensory Biology, 15 credits

BIMM25, Biomedicine: Stem Cell Biology and Regenerative Medicine, 7.5 credits

KEMM35, Chemistry: Structural Biochemistry, 15 credits
BIOR93, Biology: Applied Bioinformatics, 7.5 credits
BIMM28, Biomedicine: Tumour Biology, 7.5 credits
BIOR76, Biology: Plant Function, 15 credits

Optional courses

Optional courses between 0 to 30 credits.

Degree Project

Degree Project between 30 to 60 credits.

MOBM02, Molecular Biology: Master's Degree Project, 30 credits
MOBN02, Molecular Biology: Master's Degree Project, 45 credits
MOBN03, Molecular Biology: Master's Degree Project, 60 credits